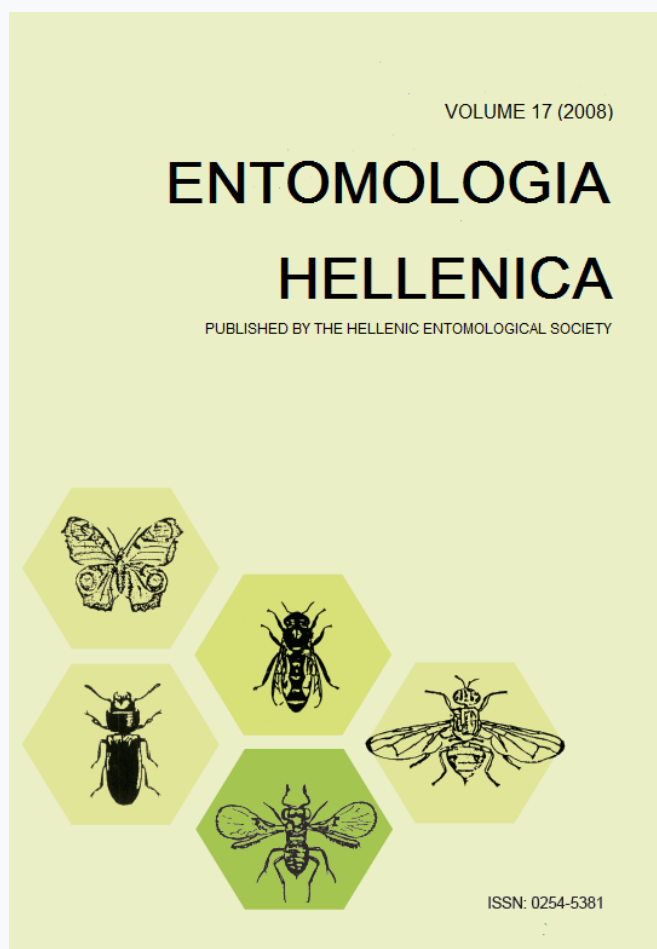


# ENTOMOLOGIA HELLENICA

Vol 17 (2008)



## New hosts for the pyriform scale *Protopulvinaria pyriformis* (Cockerell) (Hemiptera: Coccidae) in Greece

*G.J. Stathas, E.D. Kartsonas, D.C. Kontodimas*

doi: [10.12681/eh.11617](https://doi.org/10.12681/eh.11617)

Copyright © 2017, G.J. Stathas, E.D. Kartsonas, D.C. Kontodimas



This work is licensed under a [Creative Commons Attribution-NonCommercial-ShareAlike 4.0](https://creativecommons.org/licenses/by-nc-sa/4.0/).

### To cite this article:

Stathas, G., Kartsonas, E., & Kontodimas, D. (2008). New hosts for the pyriform scale *Protopulvinaria pyriformis* (Cockerell) (Hemiptera: Coccidae) in Greece. *ENTOMOLOGIA HELLENICA*, 17, 56–59.  
<https://doi.org/10.12681/eh.11617>

## SHORT COMMUNICATION

# **New hosts for the pyriform scale *Protopulvinaria pyriformis* (Cockerell) (Hemiptera: Coccidae) in Greece**

**G.J. STATHAS<sup>1,\*</sup>, E.D. KARTSONAS<sup>1</sup> AND D.C. KONTODIMAS<sup>2</sup>**

<sup>1</sup>*Technological Educational Institute of Kalamata, School of Agricultural Technology, Department of Crop Production, 24100 Antikalamos, Greece*

<sup>2</sup>*Benaki Phytopathological Institute, Department of Entomology, Agricultural and Agricultural Zoology, 8 St. Delta, 14561 Kifissia, Greece*

The pyriform scale *Protopulvinaria pyriformis* (Cockerell) (Hemiptera: Coccidae), is widely distributed in many countries of the world (Ben-Dov 1993). In the Mediterranean basin, the coccid has been recorded in France (Canard 1996), Israel (Blumberg and Blumberg 1991), Italy (Pellizzari 2003), Portugal (Carvalho and Aguiar 1997) and Spain (Spina 2001). It is a polyphagous insect with more than 100 plant hosts belonging to 34 families (Wysoki 1985).

It was recently recorded for the first time in Greece, on the laurel *Laurus nobilis* L. (Lauraceae) (Ben-Dov et al. 2003) (Fig. 1). Its phenology and ecology was studied in the area of Kalamata (Southern Peloponnesus) on *L. nobilis*, where it was found to complete several overlapping generations every year (Stathas et al. 2009). The duration of generation time was estimated to last ~52 days in nature during winter and it was shortened to 29-33 days during summer. It was found to be parasitized by *Metaphycus helvolus* (Compere) (Hymenoptera: Encyrtidae). However, the scale was able to resist parasitization by encapsulating the parasitoid's eggs. The predator *Chilocorus bipustulatus* (L.) (Coleoptera: Coccinellidae) was found to be the natural enemy of the scale (Stathas, et al. 2008).



FIG. 1. *Protopulvinaria pyriformis* on *Laurus nobilis*.

During the present study a survey was made in the area of Kalamata on 17 plant species belonging to the families Agavaceae, Araliaceae, Cannaceae, Leguminosae, Moraceae, Rubiaceae, Rutaceae and Verbenaceae, in order to record the distribution of *P. pyriformis*

\*Corresponding author, e-mail: vassilis@arinet.ari.gov.cy

among other host plants in this area. In June 2007 *P. pyriformis* was found on *Hedera helix* L. (Araliaceae) (Fig. 2a) at the area of Almyros (36°59'58''N, 22°09'18''E) and in May 2008 on *Citrus aurantium* L. (Rutaceae) (Fig. 2b) in the city of Kalamata (37°01'48''N, 22°07'06''E). From the examination of *H.*

*helix* and *C. aurantium* infested samples in the laboratory, it was found that *P. pyriformis* settles mainly on the lower leaf surface of both hosts, it is parthenogenetic and oviparous, and produces increased amounts of honeydew throughout the whole year.

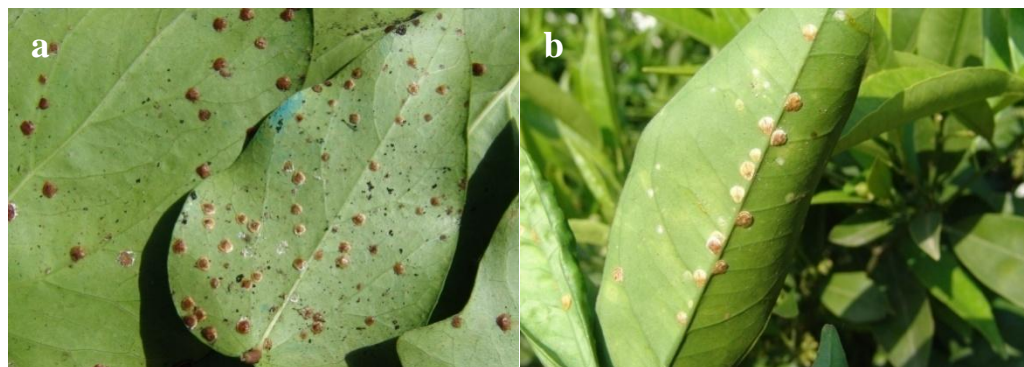


FIG. 2. *Protopulvinaria pyriformis* on *Hedera helix* (a) and *Citrus aurantium* (b).

*Protopulvinaria pyriformis* could be considered a potential serious pest, as it is reported as an important pest of fruit trees and ornamental plants in many parts of the world (Ben-Dov 1993). The fact that 5 years after the 1<sup>st</sup> record of the scale (2003) it is found to infest new plant species in the area of Kalamata, indicates that it is important to extend the studies of its biology and ecology. Furthermore, the knowledge of the role and importance of its natural enemies is considered basic in planning an effective program of integrated pest management.

## References

- Ben-Dov, Y. 1993. A systematic catalogue of the soft scale insects of the world (Homoptera: Coccoidea: Coccidae) with data on geographical distribution, host plants, biology and economic importance. Flora and Fauna Handbook, No. 9, Sandhill Crane Press, Gainesville, FL, 536 p.
- Ben-Dov, Y., G.J. Stathas and J.S. Malliarou. 2003. The pyriform scale, *Protopulvinaria pyriformis* (Cockerell) (Hemiptera: Coccidae) in Greece. Agr. Res. 26: 89-91.
- Blumberg, D. and O. Blumberg. 1991. The pyriform scale, *Protopulvinaria pyriformis*, and its common parasitoid, *Metaphycus stanleyi*, on avocado and *Hedera helix*. Alon Hanotea 45: 265-269.
- Canard, M. 1996. The pyriform scale *Protopulvinaria pyriformis* Cockerell, 1984, a cottony scale new for the French fauna (Homoptera, Coccidae). B. Soc. Entomol. Fr. 101: 131-134.
- Carvalho, J.P. and A.M.F. Aguiar. 1997. Citrus pests in the Island of Madeira. Pragas dos citrinos na Ilha da Madeira: Secretaria Regional de Agricultura, Florestas e Pescos, 411 p.

- Pellizzari, G. 2003. Hemiptera Coccoidea new or little known for the Italian fauna. Boll. Zool. Agr. Bachic 35: 99-106.
- Spina, M.L. 2001. Pyriform cochineal (*Protopulvinaria pyrifomis* Cockerell) infestations in avocado plantules grown from seeds. Inform. Fitopatol. 51: 64-66.
- Stathas, G.J., P.A. Eliopoulos, G. Japoshvili and D.C. Kontodimas. 2009. Phenological and ecological aspects of *Protopulvinaria pyrifomis* (Cockerell) (Hemiptera: Coccidae) in Greece. J. Pest Sci. 82: 33-39.
- Wysoki, M. 1985. Search for the pyriform scale, *Protopulvinaria pyrifomis* (Cockerell) (Homoptera: Coccidae) and its natural enemies in South Africa. Alon Hanotea, 39:785-789.

## Νέοι ξενιστές της απιόμορφης ψώρας *Protopulvinaria pyriformis* (Cockerell) (Hemiptera: Coccidae) στην Ελλάδα

Γ.Ι. ΣΤΑΘΑΣ<sup>1</sup>, Ε.Λ. ΚΑΡΤΣΩΝΑΣ<sup>1</sup> ΚΑΙ Δ.Χ. ΚΟΝΤΟΔΗΜΑΣ<sup>2</sup>

<sup>1</sup>Τεχνολογικό Εκπαιδευτικό Ίδρυμα Καλαμάτας, Σχολή Τεχνολογίας Γεωπονίας, Τμήμα Φυτικής Παραγωγής, Εργαστήριο Γεωργικής Εντομολογίας & Ζωολογίας, 24100 Αντικάλαμος

<sup>2</sup>Μπενάκειο Φυτοπαθολογικό Ινστιτούτο, Εργαστήριο Εντομολογίας και Γεωργικής Ζωολογίας, Στ. Δέλτα 8, 14561 Κηφισιά

Η απιόμορφη ψώρα *Protopulvinaria pyriformis* (Cockerell) (Hemiptera: Coccidae), καταγράφηκε για πρώτη φορά στην Ελλάδα σε φυτά δάφνης, *Laurus nobilis* στην Καλαμάτα, τον Οκτώβριο του 2003. Αργότερα, τον Ιούνιο του 2006 και τον Απρίλιο του 2007, το *P. pyriformis* βρέθηκε στην ίδια περιοχή να προσβάλλει τα φυτά *Hedera helix* και *Citrus aurantium*. Το κοκκοειδές αυτό έντομο θεωρείται μια εν δυνάμει απειλή για καλλιεργούμενα και καλλωπιστικά φυτά.